

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
3 February 2005 (03.02.2005)

PCT

(10) International Publication Number
WO 2005/010825 A3

(51) International Patent Classification⁷: **G06T 7/00**,
G01B 11/25

(21) International Application Number:
PCT/IL2004/000672

(22) International Filing Date: 22 July 2004 (22.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/490,586 24 July 2003 (24.07.2003) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

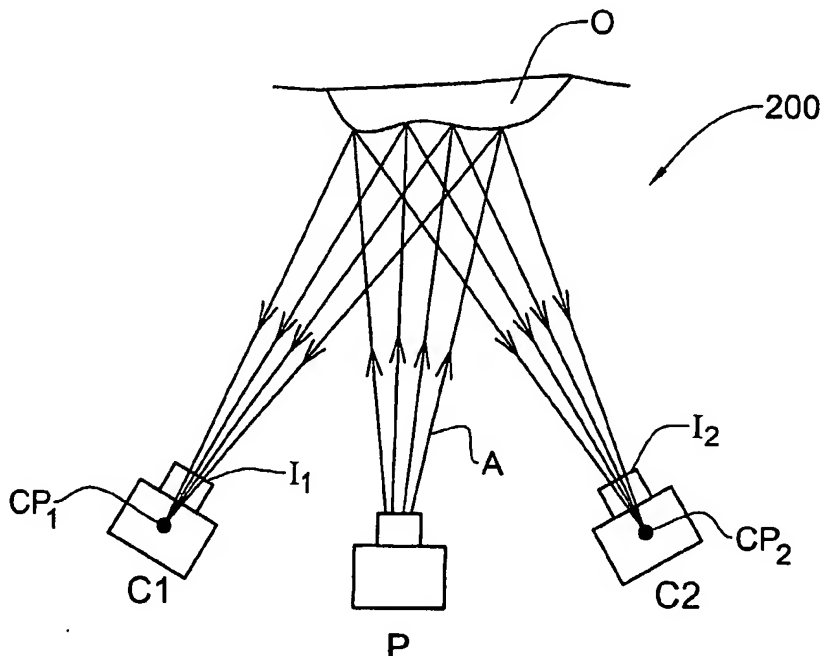
Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
9 June 2005

[Continued on next page]

(54) Title: METHOD AND SYTEM FOR THE THREE-DIMENSIONAL SURFACE RECONSTRUCTION OF AN OBJECT



(57) Abstract: A method for reconstructing 3D surface structure of an object uses a two stage approach. In the first stage, a first set of images is obtained, and a spatial coding technique, such as a random grid, is used for correspondence mapping of coordinates from a first image to a second image of an object, and the images are obtained at different angles with respect to the object. In the second stage, a second structured illumination, typically comprising a striped grid, is used to obtain a second set of images, typically comprising two further images of the object. The mapping provided by the first stage provides proper labeling of the grid between these two images of the second set, and enables accurate matching of elements between these images. Triangulation or epipole methods can then be used for obtaining the 3D coordinates of

the surface being reconstructed.

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